ially for the aristocracy, and that the people were shut out of Hyde Park and not recognized.

INCRUSTATION OF STEAM BOILERS.

A positively harmless and cheap remedy for this universal evil must prove of great interest to all using or owning boilers. The loss of fuel alone, to say nothing of risk of explosions from choked up feed pipes, and burning out of the boiler in heating through this non-conducting crust, must be amply repaid by any non-injurious antidote. So many remedies have been found inefficient or injurious, we had concluded to recommend nothing again; but our attention has been especially called to the "Anti-Incrustation Powder," made by H. N. Winans, of this city, that we have concluded to call public attention to it through our columns.

If any reliance can be placed in the testimony of practical engineers and owners of boilers, who have for a long time used this article, then it is certainly a thing of much value, and well worth the attention of all who use steam power. We have examined a multitude of testimonials in which its merits are emphatically set forth. They all agree that the ingredients used are not injurious to the iron of the boiler, that they neutralize the action of acids contained in the water, arrest oxidization, loosen scale where it has been formed, and effectually prevent its formation at all times, keeping the boiler smooth and clean.

We recently read a letter from an engineer of the steamboat *Antelope*, running on the Mississippi, in the vicinity of St. Paul, Minn., in which he states, that since using Winans's Incrustation Powder they were enabled to make 20 lbs. more steam, in the same boiler, with the same fuel. The article is in use by hundreds of respectable parties, and in many cases practical results similar to the above are alleged to have been obtained. The inventor's office is at No. 11 Wall street, New York city, where he will be happy to see any who wish to inform themselves further upon the subject.

NEW ENTERPRISE---STEAM WAGON FOR THE WESTERN PRAIRIES.

On the 7th inst. Gen. J. R. Brown, of Minnesota, forwarded by the New Jersey railroad, for the West, a peculiar steam wagon. It was built by Mr. John A. Reed, No. 63 Liberty street, this city, and is intended to be used in the transportation of freight from Omaha to Denver city, in Kansas. It is propelled by four engines of ten-horse power each. The driving wheels are ten feet in diameter, and they have a tread of eighteen inches in width. The steering wheels are six feet in diameter and twelve inches broad in the face.

Ample provision is made for carrying wood and water sufficient to run the engines four hours. From the tests that have been made, the wagon has been proved capable of hauling eight tuns of freight at the rate of four miles per hour, or of being propelled at the rate of six miles per hour with one or two tuns behind it. In an experiment in ascending Bergen Hill, N. J. (which is equal to six hundred feet per mile), it moved steadily at the rate of about four miles per hour without any perceptible diminution of steam. An engineer, fireman and steersman are required in operating the machine, and the consumption of fuel will be equal to one cord of wood in eight hours. The owner and the builder of the wagon, as well as the engineers and others who have witnessed the trials of its speed and the adaptation of the machinery, have the fullest confidence in its success. They believe it capable of hauling ten tuns of freight at the rate of eighty to one hundred miles in the twenty-four hours, over a common road.

This enterprise is one of great importance, and we shall watch its development with deep interest. If steam can be successfully used for the transportation of freight and passengers over our Western prairies, it will have an important bearing upon the interests east of the Sierra Nevada range, and will materially promote the settlement of our Western lands.

We heartily wish it is quite natural we should that every one of our readers would make up his mind at once to get at least one new subscriber to the Scientific American. We should be delighted with such a demonstration of loyalty to our journal.

Cultivating Plants when the Dew is On.

The following interesting and practical information is from a correspondent of the *Country Gentleman*:—

Fifteen years ago, I noticed a plot of cabbages, the large firm heads of which I could not account for from anything apparent in the soil. On asking the owner how he made from such a soil so fine and uniform a crop, I found his only secret was that "he hoed them while the dew was on." He thought that in this way he *watered* them, but of course the good resulted more from the ammonia than the moisture of the dew.

I adopted the practice the following year, and with the result was so well satisfied, that I have since continued and recommended it to others. There will be a very great difference in the growth of two plots of cabbages, treated in other respects alike, one of which shall be hoed at sunrise and the other at midday; the growth of the former will surprisingly exceed that of the latter.

A story in point sometime since went the rounds of the agricultural press, of which the substance follows: A small plot of ground was divided equally between the hired lad of a farmer and his son, the proceeds of its culture to be their own. They planted it with corn, and a bet was made by them as to which should make the best crop. At harvest the son came out some quarts behind. He could not understand the reason, as he had hoed his twice a week until laid by, while he had not seen the hired lad cultivate his plot at all, and yet he had gained the wager. It turned out the winner's crop had been hoed quite as frequently, but before his rival was up in the morning. Providence, it seems, follows the hoe of the early riser with a special and increased reward.

But there are exceptions. Cultivating while the dew is on, manifestly benefits such gross feeders as cabbage and corn, but there are plants very impatient of being disturbed while wet. The common garden snap and running beans are examples; and if worked while wet, even with dew, the pores of the leaves seem to become stopped, and the whole plant is apt to rust and become greatly injured. Whether the Lima beans and other legumas are as impatient of being hoed in the dew, I have not ascertained. Experiments should, however, be tried the coming season on all hoed crops.

Photographic Engraving.

A new method of photographic engraving by M. Fontaine, of Marseilles, France, is described as follows in the *Photographic News*:—

Having a photographic negative of the object which it is desired to engrave upon copper, I expose it in a pressure frame to the light in contact with a plate of that metal, covered with a solution composed of pure gelatine, bichromate of potassa, and fish glue. After exposure to the light, I immerse the plate in a dish containing lukewarm water, the bichromate of the soluble portion of the gelatined plate being dissolved, I obtain the design from the negative *en creux* (intaglio); then I pour upon it some pyrogallic acid to harden the gelatine and fix it, so that the minute details should not disappear upon its drying. When dried, I pour upon the plate a solution of pure gutta-percha in sulphide of carbon, and afterward I take a piece of gutta percha of the same size as the plate, and warm it on one side. I then put it in contact with the side of the plate, which I had covered with the solution of gutta percha, and put in a press. Next removing the whole from the press, I remove the gutta percha from the gelatined plate, which is perfectly united with the purified gutta percha, and I have then obtained in relief in great purity the design of the negative which I desire to engrave. After black-leading it, I place it in an electrotype bath, and thus obtain an engraved plate.

Bunsby Again—A Dark Prospect.—The London *Post*, Ministerial organ, gives it as its deliberate opinion, that if the Federal army beats the Confederate army the latter will be vanquished, but if the Confederate army beats the Federal army the South will gain their independence. It seems to us just as though knowledge would die out with the demise of this Jack Bunsby the second. Verily, darkness is again brooding over the whole earth.

Waste Products of Gas Works.

In a late lecture on the above subject by Dr. Lyon Playfair, before the Royal Society, London, he endeavored to illustrate the effect of enriching pure hydrogen gas by passing it through naphtha, when the glass vessel in which the fluid was contained exploded as he applied the light to it, and fragments of glass were scattered in all directions, and dense brown fumes filled the lecture-room, and drove many of the ladies away. He exhibited a large and beautiful mass of paraffine and a bundle of paraffine candles that had been made from coal tar, and contrasted the present state of the manufacture and the use of that article with its condition in 1851, for in the Exhibition of that year, a single paraffine candle only was exhibited as a great curiosity, which had been produced from peat; whilst in the Exhibition now open, there are abundant specimens of the paraffine wax and candles made from coal tar, the production of that article having become an important branch of manufacture. He stated that 4,000 tuns of the muriate, 5,000 tuns of the sulphate, and 2,000 tuns of the carbonate of ammonia are annually produced from gas liquor; and he no doubt surprised, and somewhat disgusted the lady portion of his audience by informing them that their smelling bottles are filled from the refuse of gas works, and the sweeping of streets. He exhibited the process of extracting oil and naphtha from coal, and described the chemical changes that take place in the formation of aniline, roseine, and the other hydrocarbon compounds that now form dyes of all colors. Specimens of all the products were exhibited, and of silks and woolens that had been dyed by them. To illustrate more forcibly the quantities of such products derived from coal, a mass of coal weighing 100 lbs. was placed near the lecture table; and near to it were placed the various products obtained from a mass of that size, and the quantity of wool which had been dyed by the products of the distillation of a similar mass. The chemical processes by which coal becomes converted into beautiful colors, may, he said, also be applied to extract from the mineral the smell and flavor of almonds, with which confectionery is now flavored, as a substitute for the far more dangerous dilutions of prussic acid.

Gen. Beauregard and the Scientific American.

We find, on looking over our list of subscribers in New Orleans, that Gen. Beauregard was one of the number. We owe him something on this account, and we hereby notify the General that if he will now take the oath of allegiance, and heartily repent of his past sins and folly, we will once more send him the Scientific American, a new volume of which begins July 5th; terms $2 a year, $1 for six months. We are surprised that Beauregard could have conducted himself as he has done. The only explanation we can possibly give on the point is that he had been a reader of our paper for only a short time, and was early cut off from its constant perusal by the blockade. Gen. Beauregard's wife, we are happy to know, is under the protection of Gen. Butler.

Another Steamer for China.

The new and elegant steamer *Fire Cracker*, just built under the direction of its commander, Capt. Henry W. Johnson, sailed from this port for Shanghae, China, on the 7th inst. Among the passengers were Mrs. H. W. Johnson and Mrs. Anson Burlingame; the latter goes out to meet her husband, who is the American Minister in China. The building of steamers to run on Chinese rivers is augmenting to a very large business in this country. Capt. Johnson took out the steamer *Fire Dart* about eighteen months ago, which has been very successfully employed since her arrival there.

Every subscriber of the Scientific American ought to be an agent for the increase of its circulation. Whoever reads the paper can aid in this matter very materially by recommending it to his neighbors. In the absence of agents we appeal to our friends to lend us a hand. Let us have a "subscription bee," such as we remember used to take place in our early days, when all turned out with oxen horses, plows and shovels to do up some good work with dispatch.

The canals of this State are in navigable order their entire length, according to a report at the Engineer's office since the great freshet which caused so much destruction in Pennsylvania and elsewhere.